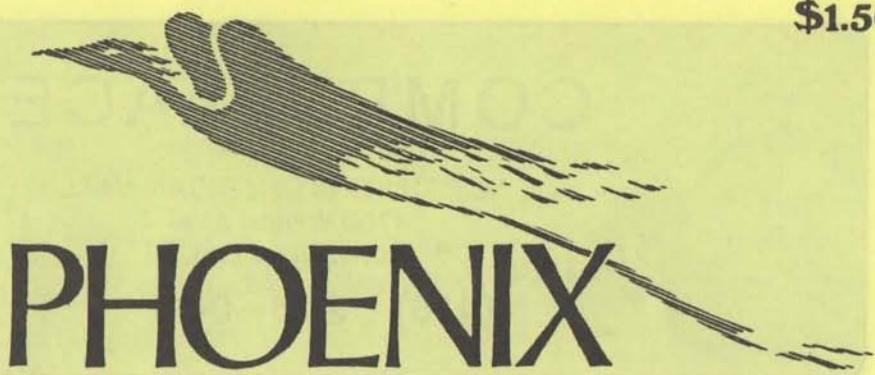


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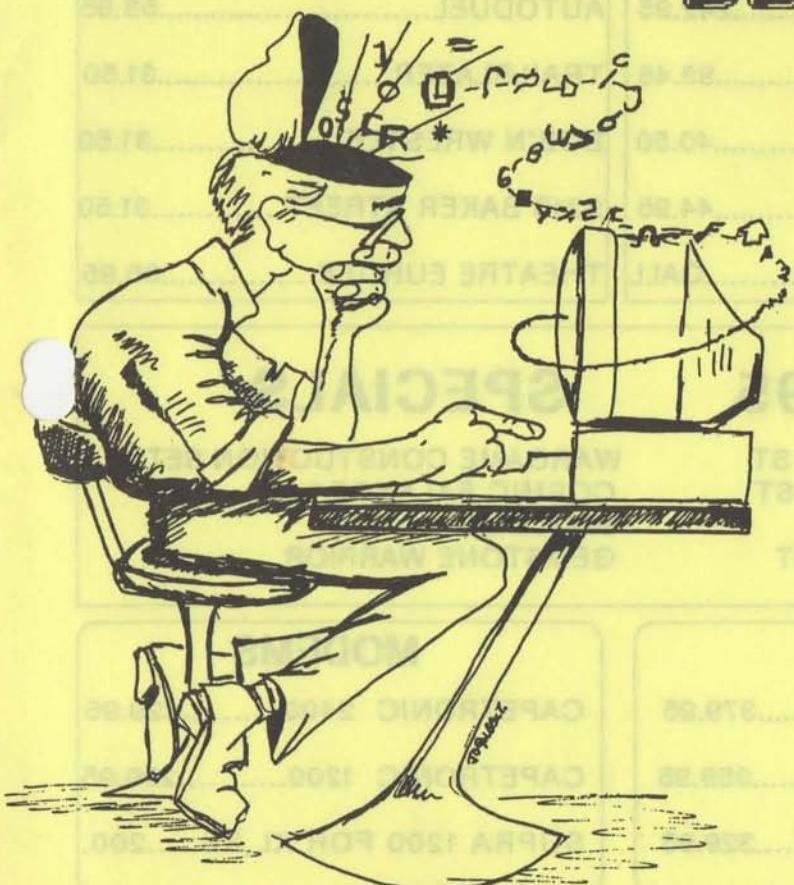
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# PHOENIX

THE TORONTO ATARI FEDERATION NEWSLETTER

## BEGINNINGS AND BEYOND



## INSIDE

ATARI SHOW REPORTS  
MANDELBROT SET EXPLORED  
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# PHOENIX

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## Editorial...

### IT AIN'T DEAD YET, NETTIE!

I keep hearing this stuff about the 8-bits being dead. So, I brought my XL in for an examination. I checked its plug and screen, grabbed its power supply, got its drive to cough and felt no vibration. Then, the big test. Ran a copy of SYNfile using data compiled by our Exec VP. Called up a search. Voilà. Successful retrieval. My system passed the Newton Test with flying colours. Now, I don't see what all the fuss is about. Great wordprocessing, multi-level graphics and ALL KINDS of software to do ANYTHING out there CHEAP. Price? You want price. I'll give you. You could've bought an XL for \$40 at a recent meeting, a super drive for \$110, a letter quality (or D/M) printer for \$120 and you might have won a monitor for a buck in our draw!!!!(\$60+value) WHAT MORE DO YOU WANT?

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### MEETING DATES

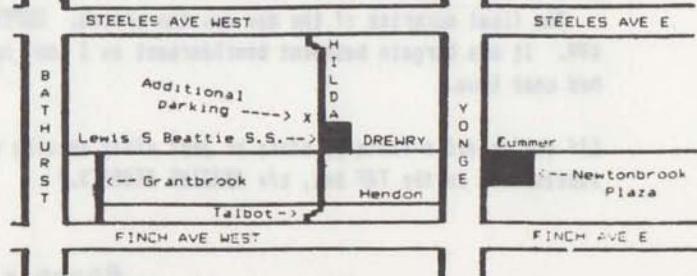
ST

XE/XL

JUNE 1 JUNE 15

Meetings of the TORONTO ATARI FEDERATION are held in the cafeteria of the Lewis S. Beattie Secondary School, 110 Drewry Ave. North York.

Time: 7:30 pm.



EDITORIAL

The direction the 8-bits could've gone fascinated me. I started to dream.....



SUPPRESSED RELEASE

In a dramatic press conference today, SuperSoft, a Sudbury, Ontario company announced an IBM compatible cartridge for the 8-bit line of Atari computers. The standard size unit contains a special ROM/cpu that enables it not only to run MS-DOS software, but CP/M as well. In front of a disbelieving crowd, the representative of the company inserted the cartridge in an off the shelf Atari 130XE. He then opened an original blister-packed copy of Lotus 1-2-3 and inserted it into a standard 1050 drive. While he explained that this is the shortened, "educational" version of the famous spreadsheet program requiring less memory, the copyright notice appeared normally loaded onto the screen. I looked around me to see about ten mouths drop open. Lotus worked perfectly! To a query of whether it would run Flight Simulator for the PC, he pulled out an original disk and repeated the previous performance.

"Of course, if you want to run GEM style WINDOWS', you'll need our memory upgrade, SUPER-RAM."

Still amazed, we watched as he plugged an elongated cartridge into the top of the SUPER-CART, making a T-configuration of the units. WINDOWS ran without a bug.

"Hey," somebody said, "what about the old 800's, got anything for them?"

"Sure", the rep came back.

He then reached into his briefcase and pulled out another cartridge.

"This cartridge plugs into the right slot of your 800 and makes SUPER-CART work, plus it gives you an additional 72K and internal software to mimic the 130XE. Unfortunately, to upgrade RAM from here you'll need a ribbon cable to connect SUPER-RAM and overcome the 800's closing 'hatch'."

At this point, we all needed a good stiff drink. But he wouldn't stop the rollercoaster ride of news.

"We have a little better surprise than this today. Now, I remind you, this device has a few bugs but it works well enough for us to allow you to see it in action."

Then, he pulled out a white, T-bar cartridge and put it into the XE slot. A small plug box went into the back of the 1050 effectively chaining the drive with a cable to an ST disk drive. We all knew what was going on now. The mouse went into a joystick port. He inserted an AEGEIS ANIMATOR disk into the smaller drive and turned on the XE. What I saw next, I could not believe. There, on a colour monitor was the GEM desk top. He loaded ANIMATOR and we watched it run the same as it had on the 1040ST.

"We are still awaiting permission from Atari to release this and iron out just a few small inefficiencies in the speed of operations software ROM. It will successfully emulate the blitter chip in the final version. As for now, it is a normal, colour ST."

The final surprise of the day was the prices. SUPER-CART, \$99. SUPER/ST-CART, \$99. SUPER-RAM, \$99. It was bargain basement bewilderment as I went home to get my checkbook ready. The dream had come true.

[If you've got a fantasy, story or just plain amazing experience let us know about it. Send your submissions to the TAF box, c/o AMAZING STORIES.]

Phoenix

Larry

# Newton's Notes

## MEMBERSHIP

The ST mailing list is now residing with Dave Goad Membership chairman ST. I hope that during the transition no names got lost between Toronto and Newmarket. We still maintain a master hardcopy list as a back-up but if anyone does not get their "PHOENIX" let Dave know and he will check the list. Perhaps your Membership has expired? As I was up-dating the XE list recently I noted quite a number of names were deleted due to expired members. To ensure that the "PHOENIX", and all our other good club news keeps coming your way, keep your membership current. The discounts alone on software and hardware will more than pay dues for the year.

## TAF on DISPLAY

The Great Lakes Expo was a great success according to all who travelled to the show. The support from Atari was very strong and alot of ideas were picked-up there. Why not next year get together a group and mosey on down? I'm sure that others will comment on the show in this edition so that's all except to thank Jim Clark, for having the club represented and taking a home video of the show for those who could not make it.

While on the topic of shows, T.A.F. was also represented at the Computer Expo, International Center. A Big note of congratulations for a job well done to Paul Gooderham, our Publicity and Promotions Chairman and all who helped him man the

booth and keep the name of the club up-front for Toronto computer enthusiasts. Thank you all!!

## CLUB 1040ST

One major piece of news as far as the Newsletter group is concerned is the acquiring of a club 1040 ST for publishing the "PHOENIX" amongst other things. It will also be the computer for our monthly meetings as soon as we get RF cables to jack into the Video projection unit. Once Larry our Editor gets used to his new toy we will explore the possibility of putting the Newsletter together by a desktop publishing package. This will likely be late summer.

## LEGAL AID

We are looking for some legal advice regarding the club. The Executive have discussed the possibility of incorporating but we need some help. If we have amongst our membership a lawyer who is willing to provide some free advice on this matter, could they call Jim Clark (928-1143) or Ian Newton (493-3525).

## SOFTWARE DEALS

On FILESAFE (a password controlled data encryption tool) and BIG MIKE'S SLOT MACHINE PARLOR (a casino games compendium), Michael Nowicki is offering a 25% discount in quantities of 5 or more of each title shipped to the club's address.

cont'd next page

ABACUS SOFTWARE has a similar deal going on all the items in their catalogue. Contact your ST-VP if you are getting a buying group together on a title.

Prolog language is now available for the 1040ST from Logicware Inc. A special pre release discount may be still available if orders are placed through User Groups. Price \$199 discounted. PROLOG is used on IBM, VAX, APOLLO and workstations. If anyone is interested contact Chris Glenn at LOGICWARE, Tel. 416-672-0300.

#### THIS AND THAT

You may have seen in our last month's "Phoenix", Electronics 2001 has moved. It's now at 4736 Yonge Street at the Sheppard subway stop, Poyntz exit.

#### SPACE AVAILABLE

TAF now has a second room for use by SIBS or for other meetings at Lewis S. Beattie on our scheduled Monday nights. If you would like to get a group going or use this space, contact chris carveth (VP-XE) or Steve Loban (VP-ST).

That's it for now and I look forward to seeing you at our next meetings.

I.S.Newton  
Executive Vice President.

**TAF**  
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Phoenix

## CLARK'S COMMENTS

Hi again everyone. Hope you're enjoying this beautiful spring.

Our club's activities at both the Buffalo Atari Expo and the Toronto Computer Expo went extremely well. Everyone who helped Atari in Toronto and those who were working our booth in Buffalo really enjoyed themselves. Although the Toronto show was much smaller than we first thought and traffic sporadic, Atari's (and TAF's) booth, thanks to Marty Herzog, made a positive impression. We're grateful to him also for supplying us with a 1040ST, colour monitor and Hard Disk drive to use there.

I would like to say thanks to everyone who helped at the shows. Especially those who went out of their way to give me a ride when my car broke down. A special congratulations to Paul Gooderham for all his work with the arrangements in Toronto and our ST Vice President, Steve Loban for his contributions at both shows. And thanks to John Moore and his son from St. Catherines who came out to pitch in at the Buffalo show on Saturday. Video tapes (VHS & Beta) from Buffalo are available for loan to members upon request.

The next executive meeting in June, will include all committee chairmen and their members. It will be a dinner meeting; food and refreshments will be supplied. Hope everyone can attend. Try and bring all your ideas and questions to this get together. We'll advise you of the date shortly.

A final very important note about THE TAF AUCTION: We need someone to chair the Auction Committee. If you're interested, please let us know. We expect it to be A BIG ONE.

Take care and have a good summer.

Jim Clark  
President, TAF

by Lou Shimbart

#### REPORTS FROM THE SHOWS

The first two items below are some of my observations and views of the Computer Expo in Toronto and the Great Lakes Atari Expo in Buffalo.

#### THE LAST COMPUTER EXPO?

For the past few years the club has had a booth at the Computer Expo, held in the past at the Convention Centre and this year at the International Centre.

Regretably, this show is smaller each year and has changed from a worthwhile endeavour to a "must miss" event.

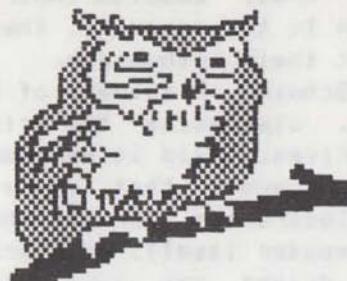
This year Atari was the only major computer company represented and, although they put on a good exhibit, those attending expected a much greater variety from a show that bills itself as "Canada's Largest Microcomputer Event".

Not only was the show advertised this way locally but out of town as well. In fact, I met one person who had flown in especially from Halifax and he was, to put it mildly, upset. However, he told me that he was very surprised to find out that Atari was not just a game machine and that the ST was being used as a terminal by many companies. As an installer of systems out East it had given him inspiration.

If there is to be a Computer Expo next year, which after this year I doubt, I am sure that Atari will not be there.

Incidentally, this year Atari

# LOU'S ENDS



(Canada) set up the TAF booth at the show to match the official Atari booth. It looked great.

#### ATARI, ATARI, ATARI!

No that is not the title of a movie or the cry of a GO player but all that was on display at the Great Lakes Atari Expo.

Although this show was a little smaller than I had expected it was quite an experience attending my first Atari only show.

A number of Atari third party companies were there. Alpha Systems were showing their ST digitizer which looked really good. Astra Systems had their 8-bit and ST drives on display. Disk Publications showed off their Alladin disk magazine. Best Electronics had all sorts of Atari parts.

User's groups were represented, including TAF, and had numerous public domain disks for sale.

A.N.A.L.O.G., which had a booth at the show, was represented by Lee Pappas and Charles Bachand, both of whom had been at the Atari booth in Toronto. It was very encouraging to those who met them

cont'd next page

to see that, despite their long devotion to the magazine, they had not lost their enthusiasm.

Lou Schwina, President of Astra Systems, discussing the price of disk drives, said it was hard to convince people that there was more electronics in them than in the computer itself. Why are the Astra drives not available in Canada? Well, primarily cost. What with the currency exchange and other extra charges, duty, distribution etc., the drives would be too expensive in Canada. However, the actual drives used by Astra are made in Scotland and Mr. Schwina is considering setting up a complete assembly line in Scotland which will allow him better access to the European Common Market and to Canada.

#### TORONTO ATARI FEST!?

Is Toronto ready for its own Atari only computer show? YOU BET!!!

It is now only a matter of time. Unlike most of the U.S. Atari shows, which are put on by user groups, the Toronto show is to be arranged by Atari (Canada) Corp.

AtariCan will be asking User's Groups to take part as well as dealers and, I presume, will also be inviting companies associated with Atari products, hardware, software, printware etc.

I know that Lee Pappas of A.N.A.L.O.G. would love to come as would many of the others I spoke to at Buffalo.

When will the show be? Could be as early as this fall!

#### NEWS BY CABLE

One of the services offered by cable companies is the ability to receive news from World-wide news agencies and to get stock quotations from the Exchange with only a 15 minute delay.

How do you get this service? Well you must pay a monthly fee and own a computer to read the information, an Atari computer is not on the can-read list. Oh yes, if you have an IBM, Apple or Commodore you're OK but not an Atari.....until June. The XE line will still be out of it but ST owners will be able to subscribe.

However....the new ST program is going to show all those other computers how it should be done.

At the Computer Expo, Alan Page, one of the authors of Flash, previewed the version he has written and it is great. He will be showing it at the June TAF\_S meeting. If you have any interest in this program its a "don't miss" meeting.

#### THE 65XE-GAME MACHINE, AGAIN

Last month I wrote about the new Atari game machine based on the 65XE.

If you know someone who wants to get a jump on the market, tell them not to wait until it comes to market, go out and buy a 400, 800, XL or XE, new or used, right away. No disk drive is needed, there are plenty of cartridges available NOW!

by Peter BLAKE

# BASICS

Well, last month I promised you that I would try and do something about comparing TurboBASIC XL and BASIC XE. So here are my comments, reflections and observations.

TurboBASIC XL was written by Frank Ostrowski for the German computer magazine "Happy Computer". The Happy Computer Verlag has placed TurboBASIC XL in the Public Domain. TurboBASIC XL has several important restrictions: First, it uses the RAM under the Operating System (OS), hence it can only be used on machines which allow one to "bank" the Operating System. This means it will not work on old 400's or 800's. It should work with everything else however, including 1200's. Also it will not work with DOS's which use the RAM under the OS, this includes TOPDOS, SpartaDOS versions 2 and up and DOSXLXL (if you know what I mean). TurboBASIC also is compatible with the 850 RS-232 dler, hence it would not make a good choice to use for writing a terminal program with.

For those with an XL or an XE machine this is a remarkably good BASIC, and excellent one for the price. To the standard Atari BASIC commands, it adds about 60 new commands. These include commands to perform DOS functions (DIR, DELETE, LOCK etc.); new graphics commands (CIRCLE, PAINT, TEXT (read about that one!)); new memory-management commands (DPDKE, DPEEK, MOVE and TIME); new program-development commands (RENUM, DEL, DUMP, TRACE etc.); new program-control commands (ELSE ENDIF, REPEAT UNTIL, WHILE WEND, PROC ENDPROC etc.); as well as

extensions and improvements to existing Atari BASIC commands (e.g. INPUT can now print a message before asking for input.) The limitation of only 128 variables in a program has been increased to 256. In addition, TurboBASIC XL allows for the setting of how FOR-loops execute (Atari BASIC executes a FOR loop once even if the exit condition has been satisfied going into the loop. This does not conform to ANSI standards.) and for setting whether a LISTing of the program is indented.

BASIC XE is the latest in a distinguished line of BASIC's which Optimized Systems Software Inc. (OSS) has written for the Atari. It all started with Atari BASIC itself, and continued with BASIC A+ and BASIC XL. BASIC XE also adds about 60 commands to Atari BASIC, that does not totally describe what BASIC XE does as one command (SET) gives 15 different functions. Apart from the TurboBASIC XL graphics commands CIRCLE, CLS (CLear Screen), FCOLOR, FILLTO, PAINT and TEXT; the commands to write and read floating point XPUT and %GET; DSOUND, TIME, & (Boolean AND), ! (Boolean OR), EXOR, DIV and MOD, I think that everything in TurboBASIC XL is in BASIC XE. (No lawsuits please if I slipped up -- yes there are a few things I did not mention, but they are not important.) In addition, BASIC XE provides these important improvements: NUM (autonumbering while you are entering a program), FAST (an optimizer), PRINT USING (formatted output), PEN (light pen readings), a set of 9 commands for Player-missile graphics; (now we are getting to the big stuff): SORT commands and EXTEND, a

method of using the extra 64K in a 130XE.

One of the first differences that you will notice is in the documentation: with TurboBASIC XL you get about 3 pages; with BASIC XE you get about 150 pages of not very large type. This is, I might mention down from what one got with BASIC XL. In particular, I missed the "30 DAYS TO UNDERSTANDING BASIC XL" by Bill Wilkinson and Diane Goldstein. This was a 176-page introduction to BASIC.

BASIC XE has replaced some of the slowest routines in the Atari DS Floating Point routines with faster routines. How do BASIC XE and TurboBASIC XL compare for speed?

Rather than run the same old tired SIEVE, I used a DISKINDX program, and the SORT function to test the speed. Firstly, TurboBASIC XL would only handle 1100 entries. BASIC XE handled over 1500. That may have been in the EXTEND mode. The program calculates the time to sort the entries (1099 in this case) and then turns the screen off and sorts. It said that Atari BASIC would take 4032 seconds to sort the files in Program (filename) sequence. I did not verify it. However, here are some of the times taken by other BASIC's:

BASIC	time (seconds)
BASIC XE	312
TurboBASIC XL	312
Compiled TurboBASIC XL	132
ABC BASIC Compiler	178

All of these times are extremely good in comparison to the speed of Atari BASIC. Remember too that one test does not show every way in which one BASIC may be faster than another.

Also, all of these programs used exactly the same code. It might have been possible to speed up the SORT in

BASIC XE by changing the program to use the SORTUP command, but in order to do that, I would have first had to change the program to use an ARRAY of strings (something that the older BASICS mentioned do not support).

Just one word about the TurboBASIC XL compiler: it is awkward to use. The output must be called AUTORUN.CTB as far as I can determine, and that means that you can conveniently only have one compiled TurboBASIC program on a disk.

We thus come to the problem: what do you want to do. If the program is just for your own use, then any BASIC would be a good choice. But if you want something that others can use, then you should look at the ABC BASIC compiler as that can create machine-language programs that anyone can use.

So much for BASIC for the moment. Perhaps next month I will look at word processors for the 6502-based Atari's: there are a pile of them.

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Ron Duffy

The Great Lakes Atari Expo in Buffalo was a BIG success. And it was a lot of fun. There were 32 exhibitors. 52 ST machines were singing, drawing, working, or just looking pretty. They were not alone: the 8-Bits were also out in strength, numbering 20. With plenty of hands-on exhibits as well as just straight demos, no machine went idle for long as over 2,000 visitors poured in during the two days. Saturday's total attendance was 861 paying customers which did not include kids under 12 or user group guests such as myself. The actual number would have been between 1100 and 1200 Atari fanatics. The show may have lacked the slick professionalism of the Toronto Expo but then it did not degenerate into an exhibit of computer stores presenting their daily wares. I met software manufacturers, peripheral manufacturers, synthesizer components, and user group members. Each one of those people was a source of expertise that you would never find in a computer store.

The first thing you notice when you walk into the show, is the abundance of synthesizer music. Four exhibits of the 32 were totally devoted to ST music. As well, many others had their fingers in the pie. The coverage of graphics was just as extensive as that of music. One booth off in a corner featured Wind Chimes music. This music publisher was promoting the latest works of Robert Collister in a devastatingly deafening manner. The music, "Makin' Tracks with Midi" was easy

# BUFFALO SHOW

listening tunes for the synthoid. The tracks were produced and run off a 130XE with Activision's MUSIC STUDIO.

## ATARI'S BIG SPLASH

Atari's large booth in the exact middle of the fair had 9 STs and 3 XEs for hands-on fun. There was the standard games and demos. One was a flock of flying parrots. It was a bit slow but nevertheless, impressive for its movie-like appearance. I saw the XEP80 showing its full 80 column capabilities. It can utilize the full graphics set and screen editing routines of the XE. Their center attraction was the Laser Printer. It was as fast as a XEROX with better than letter quality printing. Contrary to previous reports, it can run off a 520ST but is limited to text and small icons. It is capable of emulating a standard printer. The technique of 'Banding' allows it to get by on less memory: the printer is just slow enough for the computer to handle a few lines at a time. Full page graphics would require a larger memory though they are trying to apply the 'Banding' technique to graphics. This particular laser printer was hand made about two months ago. Font resolution is superb. The standard font is loaded by the laser program and takes up

42K of disk space. That's about 40 times the resolution of a standard 8x8 character set. No jagged lines or dots are seen in the half inch tall characters. This font can be set to any slant, boldness, or size to fit your application. The Atari Exhibit is a travelling show from Sunnyvale that visits all the major US computer events. My thanks to Mr. Morgan for his explanations.

My next stop was the ASTRA booth where the proprietor was explaining to Lou Shimbart and a Vicar that his disk drives had more electronics than the computers themselves. He said that the ASTRA 2001 had more CPU's than the 130XE. This was why the dealers could not justify promoting and developing the 8 bits. Customers were having trouble understanding that the computer is not the major expense in putting together a system.

He explained that the ST offered a greater margin for the dealer and above average marketing.

#### AN INFOMANIACS PARADISE

For those with a hunger for more information there were a series of seminars off the beaten track. I attended the one on the GRAPHIC ARTIST. Only 13 people showed up and there was no demonstration (...sigh). GRAPHIC ARTIST is a combination CAD/Desktop Publishing System. A unique feature is its built-in graphics spreadsheet of drawing coordinates and equations. Hence, drawings can be altered without resorting to erasing and redrawing. It has 8 built-in fonts formed of equations instead of

bit-maps, ensuring unlimite character resolution in your fancy documents. An added font editor an font pac give even more flexibility. Any combination of size, scaling, slanting, bolding, spacing, rotation, and justification is allowed with text. Multiple columns can be textflowed. You can have macros, business graphics/charts, and symbols. The system is not copy protected and runs faster than IBM AutoCad. It all sounds great but the true test of strength would be in a demo, and I leave that to you.

#### ARTIFICIAL INTELLIGENCE SPOKEN HERE

I spoke at length with the makers of MPROLOG, LOGICWARE. This was their first ST exhibit and it probably will not be the last. MPROLOG is one of the latest in artificial intelligence languages. It is a non-procedural, English style interpreter language. They convinced me that it is easier and more fun to programme than FORTRAN and PASCAL. Playing the devil's advocate, I asked them what it was good for. Well, since LOGICWARE does contract applications programming in MPROLOG, they were able to give me a number of Real World applications. For Allied Signal Corp. (26th on the Fortune 500), they used MPROLOG to diagnose the effectiveness of various air pressuring/conditioner prototypes for the new Boeing 767. They do not, however, mass distribute general applications for home or office. They leave that to the users groups and the buyers since

MPROLOG runs off a series of rules, each person's set of rules is different. Instead, they try to get people started. I have invited this Mississauga based company to give a talk to the ST group, where I look forward to hearing more about this new and exciting language.

#### GREAT GAMES & ROBOTS

At the far end of the fair, Hybrid Arts had set up a series of 6 STs for the public to use in playing a game of MidiMaze. In order to seriously evaluate the product, yours truly took a place and got down to work. The game was a cut-throat confusion of dead Happy Faces; it was quite exciting. The graphics and game objective are quite simple. You have six Happy Faces wandering around a maze blowing each other away. The object is to make as many unHappy Faces as possible. In spite of the simplistic graphics, the resolution high, joystick response good, and movement smooth. I hated it: I was always fourth.

This Atari Fair had its own mascot, named Cosmo. His owner was a tall gent named SIR Henry Que. The robot was cute in an ugly sort of way. He sported a cowboy hat and a tie. His face was a Halloween mask of some incredibly ugly human, probably a past president. He would talk it up with the kids and was all round entertaining. (Expo Ernie eat your heart out) His master, SIR Que, was kind enough to point out that I had dropped a dollar. Yours truly, promptly realizing the value of an American

dollar, lunged for the misguided bill. At that point, the bill leaped from the floor to Cosmo's sleeve, with yours truly left looking singularly foolish bent over in front of a crowd of kids. Thanks Que. Boy, I wanted that dollar. I said goodbye to Cosmo and SIR Que, and was on my way. I really needed that buck, you know.

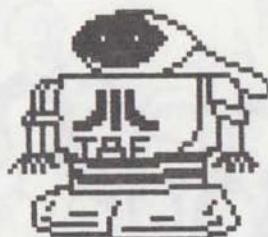
#### ONLY IN CANADER YA SAY?

At one point, a Yank strolled up to the TAF booth, when I was manning it, and gazed critically. I could see the wheels turning in his head, as he figured that there couldn't be more than 25 Atari fanatics in all of Canada. "Pretty small group, huh."

"Yeah, only 500."

"Oh..."

Three different Yanks repeated that performance. It seems that they are surprised to see anything with more than 9 members on a team, come out of Canada. However, they do know how to put on a show. This is one show where the deals were so fabulous that to this day, I curse my tight-wad soul. However, you can be sure that I am looking forward to the next Atarifest in Detroit in August.





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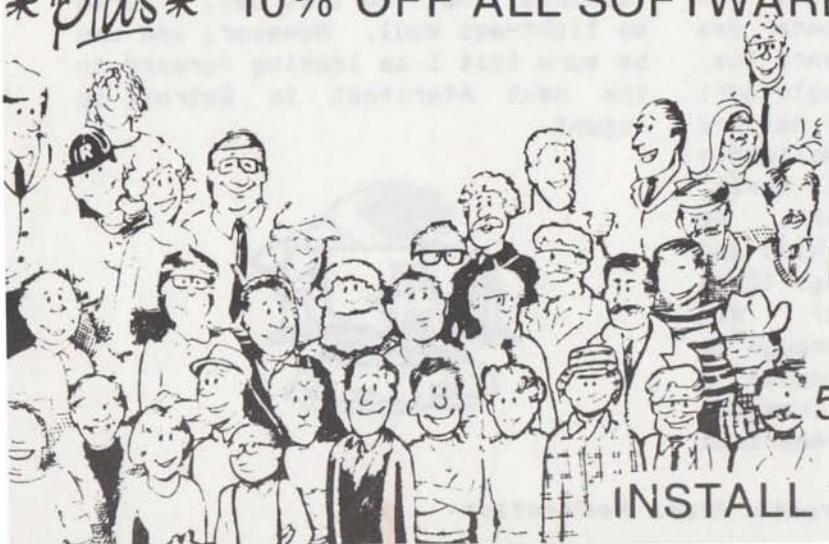
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# SNIPPETS

by Larry Sannuto

DRIVE UPGRADE/SWAP: If you considered going to a double-sided drive mechanism in your SF354 and chucking your single, John Pellar has done it. While this change has its difficulties, voids your warranty and wastes your old drive, it does work. The power supply problem is overcome by replacing the double's terminating resistor pack (inline multi-pin, labelled RA1) located near the drive jumpers on the top of the board. Sub with the 354's so the proper amount of current is drawn. A tip: DS drive systems require a "disk-IN" before turning the computer on to recognize the "B". Should you make this mod? Only if you know what you're doing. John's single was failing so he felt it worthwhile. All this depends on IF you can find a DS mechanism which I hear are being held to put in the MEGAS. Good luck.

ref. Pokey Press, March 87

JMIC ART BY COMPUTER: Found an old sh (#21) of Comics Interview that profiles Mike Saenz (SHATTER) using his computer (MAC) to create detailed comic art. The ST can do all his '85 stuff and much more and with the injection of the final version of GDOS will come a flood of incredible publishing programs. GDOS stands for Graphics Device Operating System. How does this software part of the VDI (Virtual Device Interface) affect your ST? A lot! You get the MAC-like multiple fonts output to any device. The NDC (Normalized Device Co-ordinates) can be used to translate pics to display with a resolution of 32767 x 32767 pixels!!! Multiple workstations, devices like

plotters, screens, printers, etc. can be used simultaneously by a single program. The GEM Metafiles will be available. They are akin to a recording of the screen which can be dumped to anything using the appropriate driver. This effectively standardizes drivers for any metafile programs. To get back to comics which you'll be able to draw then, I found this review comic at Active Surplus Annex on Queen St. W. for 75 cents. Better start studying how they do it NOW!

Comics Interview #21, Pokey Press, March 87

DIGITIZER/SCANNER DEAL: Wow, the Seymour-Radix ST Scanner has been bought by SoftLogic (Publishing Partner). Frank Sommers says he's heard they plan to package the device with PP for a while at NO increase in price. (It has been selling for only US\$59.95). With it you can scan any picture, document, graphic, etc. and move it into the computer's memory. Screens downloaded from Compuserve have been nothing short of spectacular, they say. I can't wait.

Current Notes, May 87

I DIDN'T KNOW THAT DEPT.: For some time now both Antic and Analog have been putting ST software on the back of their 5 1/4" disk magazine versions. So, you 8-biters who bought the disk also have ST software for when you get your new machine or to share with a friend who has a 520 or 1040. Now, how do you access this disk bonanza if you only have a 3 1/2" drive? A couple of ways: You could get a friend with his 8-bit

# SNIPPETS

system modem to upload it to you. No modem? Try the null modem project in the April PHOENIX or an interface like the 850, R-verter, etc. The software? From Antic disks, PORT.EXE and PORT.PRG (ST) or others. Note: I will be checking this item out this summer and report back to you on it.

OH, YOU CAD!: If you are an architect, draftsman or professional drawing plans to real scale, FIRST CADD is your program. Steve Warn uses an \$85,000 piece of software at work and was impressed by this one. Everything you create can be dumped to the printer in whatever scale you wish. You can draw in 256 layers and choose to view any combination you wish. ie. floor plan and plumbing only. Common "cells" (components) in your work can be saved as a collection and recalled individually whenever you need them- even for a different drawing. You also have automatic functions to replace the tools used to create special shapes in normal drafting like polygons, ellipses, circles, etc. Steve says the next nearest program to this is called THE DRAFTSMAN but is way out of his price range (over \$100?).

MAGIC SAC MOVES UP: Upgrade for \$10 and your original disks, to version 4.0 which accomodates the later Finders (above 4.1). However, the Epson compatible printer driver will set you back US\$45. It will let you emulate the Apple ImageWriter though. A Comment: the \$300 you spend for this amazing device is cheaper than a MAC but, with the major software producers coming up with better and faster equivalent ST software, its impact and usefulness may be

lessened. Oh, did I tell you? Dave Small plans to release v.5.0 in Ju ref. ACE, May 87

MODEM INCOMPATIBLE: Just in case you were waiting to get that Atari 1200 baud modem, here's a few facts. You won't be able to use ANY of your present modem programs either ST or XL/XE. In their infinite wisdom to create a dual-line device, they forgot to tell you you'll need new software. As a saving grace, Keith Ledbetter is updating his fantastic terminal program, EXPRESS! to support the new handler. Jerry Cross of G.A.B. got this straight from Neil Harris of Atari.

ref. Michigan Atari Mag. April 87

CHEAPEST PRINTER IN THE WORLD: How about \$40 (US) to turn out those dot matrix goodies. Computer Direct/Protecto has this thermal Canon printer that is IBM plug compatible. Big Blue (brand name) needs a \$20 interface to work with the 8-bit. You can use roll, fanfold or single sheets of thermal paper which can be purchased here at G&T, R/Shack, probably Canon dealers, other office and surplus stores. Make sure you get the proper heat range. These printers are Ultra-quiet, no speed demons but great utility printers if you're not fussy. I like them. Protecto Enterprizes is at 22292 N.Pepper Rd., Barrington, IL. 60010. (312)382-5244.

ref. The Sage Scroll, May 87 and Antic Magazine

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# ON THE BOARDS

is a new column we're trying in the Phoenix. Every month we're going to print excerpts from the discussions on some of our local bulletin boards.

This month's topic will be of particular interest to anyone considering purchasing one of the new BASIC's now available for the ST. It features a lengthy discussion on the relative merits of Fast Basic and gfa Basic and even has a comparison of their execution speeds. It is all taken from one of our best local ST boards, STARLOG. For those of you who aren't acquainted with STARLOG, you can reach it at 926-8874.

## COMPARISON OF FAST BASIC, GFA BASIC ST BASIC and MEGAMAX C

Message : 5299 [Open] 04/05/87 6:48

From : Rick Smereka

To : All

Subject : Benchmarks

Sig(s) : 1

(There are 2 replies)

Here are the results from a day experimenting with Fast BASIC, GFA BASIC, and Megamax C. I have focused on two areas, execution speed and executable file sizes. Execution times are given to the nearest 100th of a second.

Name:	Fast BASIC	GFA Int	GFA comp	Megamax	GFA	Megamax	Size	Size
bench1	0.145	0.11	0.055	0.01	4300	5803		
12	0.585	0.4	0.1	0.01	4126	5809		
13	1.315	1.03	0.22	0.04	4194	5825		
bench4	1.47	1.02	0.28	0.03	4336	5821		
bench5	1.525	1.095	0.31	0.04	4443	5833		
bench6	2.6	1.775	0.61	0.09	5199	5855		
bench7	4.155	2.865	0.985	0.11	5299	5871		
bench8	2.75	0.015	0.01	0.00	5586	5236		

The benchmark programs that I used are directly from the Fast BASIC disk. Most of these programs originally came from standard benchmarks used by Byte magazine to test machines and languages. I was unable to test FastBASIC programs that have been put through 'tagger.'

The results are rather interesting from a few perspectives,

1. Fast BASIC is not as fast as GFA in all departments.

2. GFA also produces executable file sizes from their compiler that I have never seen any BASIC compiler do.

Usually, compiled BASIC programs are abnormally large.

3. C still wins in the execution time department, so I can say with ease that NO compiled BASIC can

match the execution speed of a good C compiler.

I would not mind enlarging the scope of these benchmarks to include other languages and/or compilers/interpreters.

\*\*\* Rick \*\*\*

Message : 5386 [Open] 04/07/87 08:28

From : Rick Smereka

To : Rodney Rehn (x)

Subject : #5373 gfa basic

Sig(s) : 13

(There is 1 reply)

No, the benchmarks were not GEM based programs. On the whole, my impression of GFA was quite good. The only thing about GFA that I did not like, is that the user interface is poorly presented and it gives the appearance of a cheap program. On the other hand, Fast BASIC has a top notch user interface. It is very professional in nature.

\*\*\* Rick \*\*\*

Message : 5387 [Open] 04/07/87 08:32

From : Rick Smereka

To : Rodney Hoinkes (x)

Subject : #5378 Benchmarks

Sig(s) : 1

I cannot use these benchmarks in ST-BASIC as of yet because one of the requirements is that you need a measurable clock with at least an accuracy of a 100th of a second. There is no easy way to achieve this in ST-BASIC.

I will post a version of the listings this weekend.

\*\*\* Rick \*\*\*

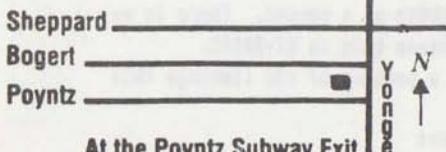
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Message : 5419 [Open] 04/08/87 08:25

From : Rick Smereka  
To : Rodney Rehn (x)  
Subject : #5396 gfa basic  
Sig(s) : 13  
(There are 1 reply)

The GFA Interpreter and its environment is pseudo-GEM in nature. By by-passing GEM, the interpreter can run at almost full speed without things like 'event\_multi' getting in the way. GFA provides the ultimate in interpreted BASIC speed and Fast BASIC provides the ultimate in a GEM language interface. This discovery highlights some rather interesting things about the overall speed of GEM.

\*\*\* Rick \*\*\*

Message : 5759 [Open] 04/19/87 03:20

From : Harvey A. Wolfe  
To : Rick Smereka (x)  
Subject : #5693 Benchmarks  
Sig(s) : 1  
(There are 3 replies)

I've got one other question about those benchmarks. They indicate that Megamax C is from 5 to 10 times faster than compiled gfa BASIC. Is that a meaningful indication of how much faster programs would actually run...e.g. would a RAMDISK created in C run 5 times faster than the identical one created in compiled BASIC?

The time differences astound me, particularly since you said that the compiled Basic code was actually more compact than the compiled C code.

Thanks  
Harvey

Message : 5798 [Open] 04/19/87 22:44

From : Alan Page  
To : Harvey A. Wolfe (x)  
Subject : #5759 Benchmarks  
Sig(s) : 1

The size of code is not that meaningful since the program also has to put in all sort of extra 'library' junk and some compilers put in an awful lot of it - so you don't really get a good idea of how large the code is for YOUR part of the program.

- Alan

Message : 5800 [Open] 04/20/87 00:51

From : Rick Smereka  
To : Harvey A. Wolfe (x)  
Subject : #5759 Benchmarks  
Sig(s) : 1

It is generally accepted practice to write time critical code in assembly only that way, you are sure that the code will execute at optimum speed. Compilers in general do poorly in one area, and excel in another. Some of the benchmarks I have read in Byte and Dr. Dobbs on the PC also refer to this fact. Up until GFA came along, the reason that compiled BASIC was slower than compiled C or assembly is because of the rather large 'run-time' package imbedded in the code. It was like having a complete BASIC interpreter within the stand-alone code. GFA must be using some sort of object library concept with a semi-intelligent linker.

I really can't explain why the compiled GFA code is so much slower than C since the size of a GFA compiled executable program is generally SMALLER than that of a C compiled executable program. It could point to the fact that the object librarys that GFA is using have not been optimized to their fullest.

\*\*\* Rick \*\*\*

Message : 5822 [Open] 04/20/87 15:05

From : John Coones  
To : Kenneth Acmens  
Subject : #5719 gfa basic  
Sig(s) : 1

Well you may not have yet found a need to "Reserve" memory but that does NOT answer my question. I'll tell you one thing,...without even considering the pros and cons of GFA vs Fast Basic as far as the actual program is concerned,...There is absolutely NO doubt that the Fast Basic Manual far exceeds the GFA manual as far as explanations,...syntax usage,... and example programs. I do like the simplicity of the GFA "Drop down menus" and a few other things,...but they sure make some other things unnecessarily difficult. Its great to be able to reserve a chunk of memory for a "buffer" of one type or another but its even better when you know WHERE it is!

\*\*\*\* JOHN \*\*\*\*

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# THUNDER!

## The Writers Assistant

Review by Robert Raper

THUNDER! from Batteries Included, is a package of three writing tools, it is a:

- Spelling checker
- Word expander / Corrector
- Writing Analysis tool

The first two features are primarily additions to a word processor and may be used with any GEM based application program because they run as an accessory under the desk icon. THUNDER! may be used in one of two different ways: as a desk accessory or as a stand alone, batch program. (The Writing Analysis function is available only in the batch mode.) It calculates simple statistical information for any given document. The number of paragraphs, sentences, words, syllables and characters are displayed along with statistical values that represent approximate level of schooling required by the reader to understand what was written. These two values are known as Gunning's Fog Index and Flesch's Index and they give a statistical indication of how complicated the source document is. The manual points out that the statistical analysis used in the program is generalized and it is not intended for exacting professional applications. The two indices only give a rough measurement.

Also available in the batch mode only, and in fact not mentioned in the manual is an option to process anagrams (letter scrambles such as the JUMBLE game in the Toronto Star).

A group of letters may be keyed in and the program will display all the words in the dictionary that can be made from those letters.

In both the batch and interactive modes is the Word expansion / Corrector feature that allows a few characters to be keyed in (they must not be a word found in the dictionary) that THUNDER! replaces with up to 25 characters. It can be used for often repeated words or phrases, for example type taf' and THUNDER! can replace it with 'Toronto Atari Federation'. Fortunately this can be overridden if the expansion is not desired. The second use is to correct common errors. THUNDER! will replace one word with a more appropriate word or phrase but only if the word is not found in the dictionary. For example, the word 'cant' could be replaced by 'cannot' without the override. This can be used in applications other than word processing. In programming for example:

'FOR I = 1 TO ' could replace 'fi'.

The functions already discussed are helpful but the primary use of THUNDER! is as a spelling checker. A 50,000 word primary dictionary to which you can add up to 2,000 words is augmented by 600 word supplemental and 300 word pair replacement dictionaries. Different dictionaries may be used for different applications and may be loaded when the program is loaded or while it is up and running.

As an accessory THUNDER! requires a lot of space; 40k for the program, 80k for the primary dictionary (remember it holds 50,000 words) and some space for the two additional

dictionaries. As a word is typed into any GEM window it is checked against the stored dictionaries and if it is not found, THUNDER! beeps using the monitor speaker. Then a dialog box is displayed showing the word not found, alternatives that are spelled correctly and a list of functions that include 'add this new word to one of the dictionaries'. If one of the alternatives is selected THUNDER! will replace the original word in the primary application with it. There is a test option that allows a word to be checked without affecting the primary application. All functions may be executed via the mouse or by the ALT key and one other keystroke.

THUNDER! will back up twenty characters to replace a misspelled word and then return those letters correctly in a process that appears magical. Thus a slow to moderate typist may continue typing after a beep but a fast typist may type beyond its capacity to back up. Another problem faced by the fast typist is that the time required to look up each word slows the rate at which typing can be accepted. With the keyboard buffering all but professional typist should be able to use the interactive version and for those professionals the batch version is an alternative.

As a stand alone program THUNDER! reads in a document and while making any replacements or expansions, displays errors in context (about nine lines of source text) along with alternatives and a dialog box of options. During processing text is written to a new file leaving the

original intact. The new file may be saved as the original or under a new name. The time required is determined by the I/O rate. Ram disk files are processed faster than hard disk files which are processed faster than floppy disk files. Option settings control whether or not capitalized words are to be tested for spelling and if not, whether the first word of each sentence is to be tested anyway.

The stand alone program is not a word processor, so if changes are made to a document, spacing and line length may not be adjusted correctly. A document that was changed would have to be checked via the word processor to ensure that spacing is correct.

The manual is excellent: A very professional booklet, with a logical layout that is well written, easy to understand and informative for all levels of user, novice to pro. It contains examples that include pictures of what the screen will look like.

In summary, THUNDER! is a well thought out product that does what the authors claim it will do, and does so very well. On a personal note, I am a poor speller and receive enormous benefit from this package (I misspelled two words in that line!). I would not hesitate to purchase this package again if I could not use the copy I have now. A computer program can mimic magic in some cases. A word processor that reshuffles paragraphs or a spreadsheet that recalculates many values are examples. THUNDER! is good, powerful magic.

by Chris Payne

This month the ST Library presents five new disks. Here are some highlights. Three are geared towards the artist in all of us. Disk #25 will have some pretty good drawing programs on it. A couple of the files are PART and MEGABLITZ. Among the utilities on disk #28 is one that will allow you to convert PRINT SHOP pictures to PRINTMASTER format plus a bunch of P/M pics to play with. #27 will be a disk of general utilities and some very good desk accessories.

At the last meeting (May 4), it was brought to my attention that the manual for STWRITER on disk #19 was incomplete. For those who have bought this disk and want to replace the file, we can do it in three ways. First, if you have disk #12, you have the complete manual already! Version 1.5 and 1.7 manuals are identical, so you don't need to worry. If you DON'T have disk #12, you can bring in your disk (#19) and exchange it for a new one or we can just copy the new file onto your disk. It's up to you. We apologize for the inconvenience.

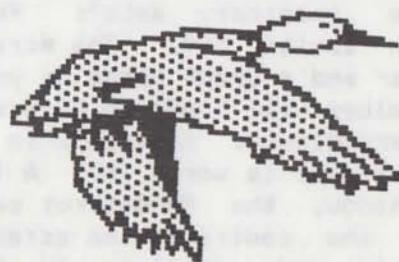
Alan Paige mentioned that a number of you would like a good P/D Debugger and he suggested one to me. It's called MONST and it will be placed on disk #27. I was going to put it on #1, but there wasn't enough room. Sorry.

At this month's meeting, I will be introducing something new:

# ST LIBRARY

A READ-ME Disk. It will contain all the files available about our club disks and will be put out on a monthly basis. It was beginning to get costly to produce the files on paper. By putting this information on disk, you just buy one at our regular disk prices (\$6 for members and \$10 for non-members). Then, (each month) you can bring in your disk and exchange it for an updated one for a small charge of only \$1. The only time you'll need a new disk is when the old one won't accept any more data. Of course, I'll have copies of the READ-ME's printed out for those who don't have a printer. I hope you'll enjoy this new feature.

Finally, a request. If you own a modem and are on any local or long distance BBS's, and you see a file or program which you think our members would enjoy, download it and bring it to the next meeting on disk. We'll give you a new blank disk to replace the one with the file on it. This way, everybody gets to enjoy all the great P/D programs out there. Thanks in advance for your help.



# TAF DISK REVIEW #1

WINDOW ON INFINITY: THE MANDELBROT SET  
by David Schreiber

"MANDEL.PRG." (Disk #1) is a treasure which has been buried too long in the TAF-ST library. Its extraordinary, beautiful graphics create images of what has been called "the most complex object in mathematics". Behind the program lie concepts which are widely acknowledged to be among the most exciting discoveries of recent science. Yet it has remained unknown to most of us simply because the documentation file with the program has bugs, and because no one has taken the trouble to explain the main ideas. It's time we made these fascinating graphics for the mind accessible.

BEHOLD!--Switch your ST to low resolution and load MANDEL.PRG. (At this stage, don't worry much about the sister program on the disk, MANDEL.DOC, since the text, for some reason is scrambled so badly that it's completely unreadable when SHOW-ed on screen and only weirdly readable when PRINT-ed.) You will get five prompts, which you should answer as follows: Real number centre: -.75; real number range: 2.5; imaginary number centre: 0; autoscale imaginary axis?: Yes; iteration limit: 100. The screen will clear and a graph based on your input values will begin to be drawn very, very slowly. Come back in an hour (the wait is worth it). A fat black shadow, the Mandelbrot set, sits in the centre of the screen, with warts and curleques on its edges. Next to it are lots of

strange, tiny details, multicolour specks, spots, barely discernible tendrils, etc. The background consists of large wave-like forms.

It's a strange, rare sight. However, when you begin to grasp what the image stands for, and the changes it can undergo, mild curiosity will give way to absolute amazement.

GRAPHICS FOR THE MIND--The Mandelbrot set is an extraordinary group of numbers which arise from a mathematical formula designed by Benoit Mandelbrot, a researcher for IBM. Math expertise is not required, but you should take a moment to understand how the formula is used. First, a value is put into the formula, which produces a certain result. Next, that result itself is put back into the formula, which produces another result. Then that second result is put back into the formula, which produces another result. This same process repeated many times, each step being called an "iteration". Certain bizarre effects arise. Some values, after they undergo a number of iterations, produce results which suddenly, dramatically increase, quickly heading toward infinity. These values appear on the screen as coloured pixels. They are the most interesting part of the image, the background, the waves, the specks, etc. Each pixel is given its individual colour according to the number of iterations which preceded the sudden, gigantic increases. Some values behave differently, undergoing a large number of iterations without the results increasing greatly. These values

# MANDELBROT

called members of the Mandelbrot set, and they appear on the screen black pixels. Together they make up the black shadow with the filigreed edges.

SPEED--Amazingly, as MANDEL.PRG was drawing, it was performing iterations for each and every one of the approximately 64,000 pixels that make up the screen. For example, before it decided that a pixel was to be coloured black, it went through one hundred iterations (the limit we set initially). That explains why the black sections were coloured in more slowly than any other colours. The pale blue sections, on the other hand, as you probably noticed, were coloured in quickly, because relatively few iterations were required to show that they did not belong to the Mandelbrot set.

HOUSEKEEPING HINTS--When you hit any key, the screen is erased and you are given the prompts again. Pressing F1 will save a picture to disk. Since each picture takes up 32,034 bytes, it is wise to set aside a special disk for your Mandelbrot pictures. These picture files, named FRACTAL.PI1, may be viewed with Degas. Be careful, though; since the program always saves a file (the image on one screen) with the name FRACTAL.PI1, it will erase any file which you saved previously on the same disk, because it was saved with the same name. So it's a good idea to re-name each file immediately after saving it. Once the picture is saved on disk, it may, of course, be printed from the screen in the usual way (press Alternate-Help).

However, keep in mind that this "screen dump" cuts off part of the right-hand side of the picture and stretches the rest out horizontally.

WINDOW ON INFINITY--Now you can appreciate this program in some depth. First, take a very close look at the edges of the Mandelbrot set. Notice how complex they are. In fact, they are infinitely complex. Infinitely! That means, no matter how close up you view them, you will always be looking at edges just as complex and interesting as those in front of you now. Think about that a moment. It's dizzying. You can inspect those edges after magnifying them by 10 power, or 10,000, or a trillion trillion power, you can magnify them continually until time and the universe both come to an end, and the edge will never lose detail, never straighten out, never become a whit simpler or less interesting. You are always confronted by another infinitesimal universe beyond the one you find yourself in. You are climbing down a ladder, viewing different landscapes at every level, and the ladder never comes to an end. What we have in the Mandelbrot set is one example of a special kind of object called a fractal, and every fractal

MANDEL.PRG...is a treasure which has been buried too long in the TAF-ST Library

has this feature of infinite complexity, as well as other more technical features. Fractal geometry is one of the newest fields of mathematics, and fractals are currently being used by scientists in attempts to give new explanations to natural phenomena. (For example, see the article "Fractal Growth" in Scientific American, Feb., 1987.)

THROUGH THE WINDOW--View a magnification of the edge of the Mandelbrot set by answering the five prompts with the following: -.855, .01, .24, Y, 100. Wait an hour. You will see a close-up of the edge of the second-largest black blob at a position of about two o'clock, but from this perspective it will look like a beautiful Caribbean archipelago. With -.635, .01, .455, Y, 100 you get starburst/snowflake patterns, located at just past nine o'clock on the main blob. Then you can seek out your own vistas, available at each infinitesimally tiny point along the edge of the Mandelbrot set.

YOUR MAP AND KEYS--It requires planning, as well as plenty of trial and error, to increase the magnification and get interesting details, because you have to focus on the areas very close to the edge of the Mandelbrot set. The following facts are essential. The full Mandelbrot set (using the first set of figures above) put the X-axis or horizontal axis of the graph across the middle of the screen (the horizontal axis, for those of you who want to know, represents the "real number" component of the "complex number" which is being graphed). Since the real number was centred at -.75, and the range was

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set at 2.5, that meant the right edge of the screen was .50 and the left edge was -2. The pattern, as you undoubtedly noticed, appeared symmetrical about the horizontal axis. The Y-axis represents the "imaginary number". We centred it at 0 and, with the same range of 2.5, the top edge of the screen became 1.25 and the bottom edge became -1.25. Now make a quick sketch of the main lines of the graph on a bit of paper. When you compare your sketch to what appears on the screen, you will be able to estimate new co-ordinates (real number for the X-axis, imaginary number for the Y-axis) that will focus on spots close to the edge of the Mandelbrot set.

Every single point along the edge is worth exploring. You can magnify any point over and over. Or, while keeping the magnification constant, you can get more detail by increasing the iteration limit. A little bit of experimentation will make this all clear to you.

THE ULTIMATE--How far can you go? With a perfect computer and a perfect program, you could magnify this graph to infinity. The results would be spectacular, with an endless succession of stunning new visual worlds revealing themselves. Scientific American of August 1985 published a wonderful article on

this topic by A.K. Dewdney of the University of Waterloo. Included was a series colour photos of progressive magnifications of the Mandelbrot set that was simply breathtaking. The magazine cover is also a Mandelbrot scene. (Make this article a must. Ask at your library. It could easily be one of the most interesting, even most inspiring, things you read this year.) The practical limits of magnification are determined merely by computing power. Presently, an IBM PC with certain enhancements can achieve magnifications greater than those which would allow us to look into the nucleus of an atom.

The way you magnify in MANDEL.PRG is either by decreasing the range of the real numbers (i.e. narrowing the borders of the screen) or by increasing the number of

iterations. The author of MANDEL.PRG claims "any magnification" is possible, but I think I have reached some kind of point where the numbers get rounded off and the graphing degenerates into straight bands of colour across the screen. Where is that point? See for yourself, fellow obsessives. After all, you'll soon learn that it's no fun actually reaching the limits. The fun is in searching for the limits--then going back to explore within them. I hope someone will even find a way to burst through the limits described in this article. If it's you, please tell us about it in the Phoenix. I also hope a programmer will come along and write an even better, more powerful and more efficient version of MANDEL.PRG.

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